

Customer No.: 31561  
Docket No.: 10545-US-PA  
Application No.: 10/708,664

### AMENDMENTS

#### To the Claims:

Claim 1. (currently amended) An under bump metallurgy layer, between a bonding pad of a chip and a bump, for improving adhesion between the bonding pad and the bump, consisting of comprising:

an adhesion layer, disposed on the bonding pad;

a barrier layer, disposed on the adhesion layer; and

a wetting-barrier layer, disposed on the barrier layer and between the barrier layer and the bump, wherein a material of the bump comprises tin, and wherein a material of the wetting-barrier layer is made of nickel, wherein the wetting-barrier layer has a thickness larger than that of the adhesion layer or that of the barrier layer, and the bump is disposed on the wetting-barrier layer and the wetting-barrier layer only covers an upper surface of the barrier layer.

Claim 2. (original) The under bump metallurgy layer of claim 1, wherein a material of the adhesion layer is selected from the following group consisting of titanium (Ti), titanium-tungsten (Ti-W) alloy, chromium (Cr), titanium nitride (TiN), tantalum nitride (TaN), tantalum (Ta), aluminum (Al) and copper (Cu).

Claim 3. (currently amended) The under bump metallurgy layer of claim 1, wherein a material of the adhesion layer is selected from the following group consisting of

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titanium, titanium-tungsten alloy, chromium, titanium nitride, tantalum nitride, tantalum and aluminum, whenif the bonding pad is made of aluminum.

Claim 4. (currently amended) The under bump metallurgy layer of claim 1, wherein a material of the adhesion layer is selected from the following group consisting of titanium, titanium-tungsten alloy, chromium, titanium nitride, tantalum nitride, tantalum and copper, whenif the bonding pad is made of copper.

Claim 5. (original) The under bump metallurgy layer of claim 1, wherein a material of the barrier layer comprises nickel-vanadium alloy.

Claim 6. (original) The under bump metallurgy layer of claim 1, wherein the under bump metallurgy layer further comprises an anti-oxidation layer and the anti-oxidation layer is disposed between the wetting-barrier layer and the bump.

Claim 7. **Cancelled.**

Claim 8. (currently amended) A flip chip structure, comprising:  
a chip having an active surface, a passivation layer and a plurality of bonding pads, wherein the bonding pads are disposed on the active surface and the passivation layer are disposed on the active surface exposing the bonding pads;

an under bump metallurgy layer, wherein the under bump metallurgy layer consisting of comprises:

an adhesion layer, disposed on the bonding pad;

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a barrier layer, disposed on the adhesion layer; and  
a wetting-barrier layer, disposed on the barrier layer, wherein a material of the wetting-barrier layer comprises nickel, and the wetting-barrier layer has a thickness larger than that of the adhesion layer or that of the barrier layer, and wherein the wetting-barrier layer only covers an upper surface of the barrier layer; and  
a bump, disposed on the wetting barrier layer.

Claim 9. (original) The flip chip structure of claim 8, wherein a material of the adhesion layer is selected from the following group consisting of titanium (Ti), titanium-tungsten (Ti-W) alloy, chromium (Cr), titanium nitride (TiN), tantalum nitride (TaN), tantalum (Ta), aluminum (Al) and copper (Cu).

Claim 10. (currently amended) The flip chip structure of claim 8, wherein a material of the adhesion layer is selected from the following group consisting of titanium, titanium-tungsten alloy, chromium, titanium nitride, tantalum nitride, tantalum and aluminum, whenif the bonding pad is made of aluminum.

Claim 11. (currently amended) The flip chip structure of claim 8, wherein a material of the adhesion layer is selected from the following group consisting of titanium, titanium-tungsten alloy, chromium, titanium nitride, tantalum nitride, tantalum and copper, whenif the bonding pad is made of copper.

Claim 12. (original) The flip chip structure of claim 8, wherein a material of the

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barrier layer comprises nickel-vanadium alloy.

Claim 13. (original) The flip chip structure of claim 8, wherein the under bump metallurgy layer further comprises an anti-oxidation layer and the anti-oxidation layer is disposed between the wetting-barrier layer and the bump.

**Claim 14. cancelled.**

Claim 15. (original) The flip chip structure of claim 8, whercin a material of the bump is made of tin-silver-copper alloy.

Claim 16. (original) The flip chip structure of claim 8, whercin a material of the bump is made of tin-copper alloy.

Claim 17. (original) The flip chip structure of claim 8, whercin a material of the bump comprises tin.

**Claims 18-21. Cancelled.**